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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,451	01/20/2004	Dong Yu	M61.12-0582	3046

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EXAMINER
SHAH, PARAS D

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)	
Office Action Summary	10/761,451	YU ET AL.	
	Examiner	**Art Unit**	
	Paras Shah	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 January 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>20 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>06/03/2005, 3/13/2006</u>.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   This communication is in response to the Application filed on 01/20/2004.

Information Disclosure Statement

2.   The information disclosure statement (IDS) submitted on 06/03/2005 and

03/13/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the

information disclosure statement is being considered by the examiner.

Specification

3.   The disclosure is objected to because of the following informalities: The element

"line 303" on page 20, line 13 is missing from the drawings and is not referenced.

Appropriate correction is required.

Claim Objections

4.   Claim 14 is objected to because of the following informalities: "of the wave

based" should be "of a wave based". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5.   Claim 5 recites the limitation "the user's pronunciation" in lines 2 and 3. There is

insufficient antecedent basis for this limitation in the claim. For purposes of compact

prosecution the claim was interpreted to be dependent upon claim 4.

6.   Claim 6 recites the limitation "the user lexicon" in lines 2 and 3. There is

insufficient antecedent basis for this limitation in the claim. For purposes of compact

prosecution the claim was interpreted to be dependent upon claim 3.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1, 2, 4, 5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being

anticipated by Nassiff et al. (US 6,418,410).

As to claim 1, Nassiff et al. discloses

a computer-implemented speech recognition system comprising:

a microphone to receive user speech (see col. 4, lines 16-18);

a speech recognition engine coupled to the microphone (see col. 4, lines

16-17) (e.g. The speech recognition engine receives input from the

microphone so it is implied that the two are coupled.), and being

adapted to recognize the user speech (see col. 4, lines 15-19) and

provide a textual output on a user interface (see col. 2, lines 19-20

and col. col. 5, lines 32-38); and

wherein the system is adapted to recognize a user changing the textual

output (see col. 5, lines 33-49) and automatically, selectively adapt

the speech recognition engine to learn from the change (see col. 6,

lines 45-50) (e.g. It is implied by that the speech recognition engine

is adapted based on the replacement word and the various models

contained in the speech recognition engine).

As to claim 2, Nassiff *et al.* discloses wherein the system is further adapted to

infer whether the user is changing the textual output due to a recognition error (see col.

5, lines 33-49).

As to claim 4, Nassiff *et al.* discloses wherein the recognition engine is adapted

to determine if the user's pronunciation caused the error and selectively learn the new

pronunciation (see col. 6, lines 45-50 and lines 57-58).

As to claim 5, Nassiff *et al.* discloses wherein the recognition engine is adapted

to determine if the user's pronunciation caused the error, and selectively modify a

probability associated with an existing pronunciation (see col. 7, lines 55-66) (e.g. The

use of a statistical quantity with the updating of a language model implies that a

probability value is associated with a word when comparisons are made (see col. 6,

lines 28-31)).

As to claim 7, Nassiff *et al.* discloses a method of learning with an automatic

speech recognition system, the method comprising:

detecting a change to dictated text (see col. 5, lines 33-40);

inferring whether the change is a correction, or editing (see col. 5, lines

33-48); and

if the change is inferred to be a correction, selectively learning from the

nature of the correction without additional user interaction (see col.

6, lines 45-50).

As to claim 8, Nassiff *et al.* discloses wherein inferring whether the change is a

correction includes detecting whether the user selected from an alternate list to make

the change (see col. 6, lines 4-10).

As to claim 10, Nassiff *et al.* discloses wherein inferring whether the change is a

correction includes comparing a speech recognition engine score (see col. 6, lines 28-

31) of the dictated text and of the changed text (see col. 7, lines 50-62).

As to claim 11, Nassiff *et al.* discloses wherein inferring includes detecting the

number of words changed (see col. 5, line 25-29 and lines 33-37).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 3, 6, 12, 13, 21, and 22 rejected under 35 U.S.C. 103(a) as being

unpatentable over Nassiff *et al.* in view of Hon *et al.* (US 5,852,801).

As to claims 3,12, and 21, Nassiff *et al.* discloses the use of a user lexicon (see

col. 6, line 25 and col.6, line 28)) (e.g. the alternative word list). However, Nassiff *et al.*

does not specifically disclose the user updating of new words in the lexicon.

Hon *et al.* does disclose the use of a lexicon, which is updated for new words

(see col. 9, lines 36-40), where words are added when determining if the words exist in

the user lexicon (see col. 7, lines 66-67 and col. 8, lines 1-3) (e.g. The determination is

made of whether the word is in the lexicon if it is unrecognized).

It would have been obvious to one of ordinary skilled in the art at the time the

invention was made to have modified the correction of dictating speech of Nassiff *et al.*

with the inclusion of an updating lexicon for adding corrected or new words. The

motivation to have combined the references involves the reduction of errors when

spoken words are not found in the lexicon of the recognition engine so as to adapt to

unrecognized words in a speech recognition system (see col. 1, lines 33-36 and lines

54-56).

As to claim 6, Nassiff *et al.* discloses the updating of the user lexicon not based

on new words or new pronunciation (see col. 6, lines 45-50) (e.g. Since the updating of

the language models is performed, the extraction of the specific word will be retrieved

and hence is an alternate form of a word in the alternate list as indicated by the

reference (e.g. The example given is "steep" and "step")).

As to claim 13, Nassiff *et al.* discloses wherein,

if the corrected word does exist in the user lexicon (see col. 6, line 25) (e.g.

Lexicon can be interpreted to be the alternative word list that is preexisting

(see col. 6, lines 10-12)), selectively learning from the nature of the

correction further includes, determining if the user's pronunciation

deviated from existing pronunciations known by the system (see col. 2,

lines 13-22) (e.g. The comparison is made between the replacement word

and the dictated word)); and

selectively learning the pronunciation (see col. 6, lines 45-50) (e.g. In

order to update the language models.)

As to claim 22, Hon *et al.* discloses the temporary addition to the user lexicon

(see col. 7, lines 43-62) (e.g. The language model is updated depending on the

recognition of the word (step and steep in the example). Once updated that model is

stored until another error is found.) Hon *et al.* discloses the adding of new words to the

user lexicon (see col. 9, lines 36-40). Since the language model is updated the

temporary storing of words based on presence or absence in the user lexicon would be

obvious to one of skilled in the art.

It would have been obvious to one of ordinary skilled in the art at the time the

invention was made to have modified the correction of dictated speech of Nassiff *et al.*

with the inclusion of an updating lexicon for adding corrected or new words. The

motivation to have combined the references involves the reduction of errors when

spoken words are not found in the lexicon of the recognition engine so as to adapt to

unrecognized words in a speech recognition system (see col. 1, lines 33-36 and lines

54-56).

11.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nassiff et.
in view of Gould (EP 0773 532 A2).

As to claim 9, Nassiff et al. does not specifically disclose the measuring of the
amount of time between dictation and the change.

Gould does disclose the measuring of the time between dictation and change by
the use of long term editing (see page 5, lines, 56-59) (e.g. allows the user to edit
correct or incorrect text from an earlier time) and short term speech error recognition
(see. Page 7, lines 13-19) (e.g. The user can correct a predetermined number of user's
last utterances which is determined to be misrecognized. It is implied that this may take
shorter amount of time since fewer words are analyzed for error).

It would have been obvious to one of ordinary skilled in the art at the time the
invention was made to have modified the correction of dictated speech of Nassiff et al.
with the inclusion of a known time or fixed length of words. The motivation to have
combined the references involves the editing of misrecognized words and words
recognized correctly but user changes mind as would benefit the system presented by
Nassiff et al. to allow correctly recognized words to be changed as well as
misrecognized words (see page 5, lines 56-58 and page 2, lines 22-29).

12.   Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over
Nassiff et al. in view of Hon et al. (US 5,852,801) as applied to claim 13 above, and
further in view of Hon et al. (US 5,963,903).

As to claim 14, Nassiff et al. and Hon et al. (US 5,852,801) do not disclose the
forced alignment of the wave based on a context word.

Hon *et al.* (US 5,963,903) does disclose the aligning of waves based on misrecognized word and correct word (see col. 6, lines 57-65 and co. 7, lines 15-18).

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have modified the correction of dictated speech presented by Nassiff *et al.* and Hon *et al.* (US 5,852,801) with the inclusion of alignment between two words. The motivation to have combined the references involves the determination and knowledge as to which phonemes are inaccurately modeled based on input speech (see Hon *et al.* (US 5,963,903) col. 37-42) as would benefit the speech recognition system presented by Nassiff *et al.* to enhance phonetic and pronunciation recognition.

As to claim 15, Hon *et al.* (US 5,963,903) discloses wherein determining if the user's pronunciation deviated from existing pronunciations includes identifying in the wave the pronunciation (see col. 7, lines 4-7) (e.g. The user is asked to pronounce the words and then the result is compared to the correct word phonemes) of the corrected word (see col. 7, lines 15-24) (e.g. In determining the pronunciation, the individual phoneme units are compared based on the phoneme models as denoted in the reference.)

As to claim 16, Hon *et al.* (US 5,963,903) discloses wherein building a lattice based upon possible pronunciations of the corrected word and the recognition result. (see col. 6, lines 57-65).

As to claims 17 and 19, Nassiff *et al.* discloses wherein generating a confidence score based at least in part upon the comparison value of statistical threshold of the corrected pronunciation and the error (see col. 7, lines 43-62).

As to claim 18, Hon *et al.* (US 5,963,903) discloses wherein generating a confidence score based at least in part upon an Acoustic Model score of the newly identified phoneme with existing models (see col. 7, lines 54-65).

As to claim 20, Hon *et al.* (US 5,963,903) discloses wherein the phoneme occurred a selected number of times. (see col. 7, lines 21-24). It would have been obvious to one of ordinary skilled in the at the time the invention was made to have determined if the pronunciation consisting of phonemes occurred a selected number of times for the ability to model those phoneme models that are inaccurately modeled (see col. 7, lines 15-18).

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Roberts *et al.* (US 5,027,406) is cited to discloses the creation of word models and correction of words. Rozak *et al.* (US 5,884,258) is cited to disclose the editing of words that have been recognized for correction. Young *et al.* (US 6,064,959) is cited to disclose speech recognition being corrected. Minematsu *et al.* (US 6,347,300) is cited to disclose correction of speech for pronunciation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paras Shah whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:30a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

P.S.

05/23/2007

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